

CLAIMS

1. An information device, comprising:

a first memory means for storing an encrypted and distributed content which can be used on condition that a license is held;

a second memory means for storing the license;

a third memory means for storing grouped device identification information for grouping and identifying a plurality of information devices which intend to use the content and key information for content decryption commonly provided to each device group together with a group identifier provided to each device group; and

a replay means for performing a process of decrypting the content stored in the first memory means on the basis of the stored information in the second memory means and the third memory means to replay the content.

2. An information device according to claim 1, wherein

the first memory means associates license identification information for identifying the license enabling the use of the content with the content to store the license identification information, and

the license stored in the second memory means includes the license identification information and the grouped device

identification information.

3. An information device according to claim 2, wherein
the replay means reads out license identification information associated with a content requested to be replayed from the first memory means,

the replay means reads out grouped device identification information associated with the read license identification information from the second memory means,

the replay means reads out key information associated with the read grouped device identification information, and

the replay means decrypts the content stored in the first memory means through the use of the read key information to output the content.

4. An information device according to claim 1, further comprising:

a group registration request means for requesting an information server to register a device group to which the information device belongs in the information server.

5. An information device according to claim 4, further comprising:

a service registration request means for requesting the

information server to register the information device as an object to be serviced, and submit the grouped device identification information and the key information to the information device.

6. An information device according to claim 4, further comprising:

a fourth memory means for storing unique device identification information for identifying the information device from others; and

a device registration request means for requesting the information server to register the device identification information stored in the fourth memory means in the information server.

7. An information device according to claim 6, further comprising:

a device identification information production means for producing the device identification information which is supposed to be stored in the fourth memory means.

8. An information device according to claim 6, further comprising:

a device registration deletion request means for requesting the information server to delete the registration of the device identification information stored in the fourth memory means from

the information server.

9. An information device according to claim 1, wherein one device group is defined as a group including a plurality of information devices owned by one user.

10. An information device according to claim 1, wherein the key information corresponds to a device node key allocated to a device group to which the information device belongs as a device node in the bottom layer among node keys which are encrypted and defined corresponding to each node in a hierarchical tree structure branching off from the top layer to the bottom layer and,

the content is multiply encrypted through the use of each node key on a path from the device node key to a root key which is a node key in the top layer in the hierarchical tree structure,

the replay means sequentially decrypts the node keys on the path from the bottom layer to the top layer in the hierarchical tree structure through the use of the key information as the device node key to obtain the root key, and then decrypts the content through the use of the obtained root key.

11. An information device according to claim 10, wherein the content is encrypted by a content key which is encrypted by the root key,

the replay means decrypts the content key by the root key, and then decrypts the content through the use of the decrypted content key.

12. An information device according to claim 1, wherein the content is text data, still image data, moving image data, voice data or data including a combination thereof.

13. An information server having a function of enabling an encrypted and distributed content to be used, the information server comprising:

a group registration processing means for associating information about a device group to which an information device intending to use a content belongs with a group identifier and registering the information according to a group registration request from the information device; and

a service registration processing means for registering the information device as an object to be serviced according to a service registration request from the information device, associating grouped device identification information for grouping and identifying a plurality of information devices in a device group to which the information device belongs and key information for content decryption with the group identifier and registering the grouped device identification information and the key information,

and providing the grouped device identification information and the key information to all information devices in the device group to which the information device belongs.

14. An information server according to claim 13, further comprising:

a device registration management means for extracting device identification information for identifying each information device from a device registration request from the information device, and associating the device identification information with the group identifier and registering the device identification information according to the device registration request.

15. An information server according to claim 14, wherein after the number of device identification information registered in one device group reaches a predetermined number, the device registration management means refuses a device registration request from a new information device belonging to the device group.

16. An information server according to claim 14, wherein according to a device registration deletion request from the information device, the device registration management means deletes device identification information specified by the device registration deletion request.

17. An information server according to claim 13, further comprising:

a license providing means for providing a license specified by a license request from an information device to the information device requesting the license according to the license request; and

a charging means for extracting grouped device identification information from the license request to judge whether the extracted grouped device identification information is registered by the service registration processing means or not, and depending upon the result, determining whether or not to charge for providing a license from the license providing means.

18. An information server according to claim 13, wherein one device group is defined as a group including a plurality of information devices owned by one user.

19. An information processing system comprising:
an information server having a function of enabling an encrypted and distributed content to be used; and
an information device as a client receiving a service from the information server through communications lines,
wherein the information server comprising:
a group registration processing means for associating

information about a device group to which an information device intending to use a content belongs with a group identifier and registering the information according to a group registration request from the information device; and

a service registration processing means for registering the information device as an object to be serviced according to a service registration request from the information device, associating grouped device identification information for grouping and identifying a plurality of information devices in a device group to which the information device belongs and key information for content decryption with the group identifier and registering the grouped device identification information and the key information, and providing the grouped device identification information and the key information to all information devices in the device group to which the information device belongs, and

the information device comprising:

a first memory means for storing a content;

a second memory means for storing a license;

a third memory means for storing the grouped device identification information and the key information which are provided from the information server together with the group identifier; and

a replay means for decrypting and replaying the content stored in the first memory means on the basis of stored information

in the second memory means and the third memory means.

20. An information processing method applied to an information processing system comprising an information server having a function of enabling an encrypted and distributed content to be used and an information device as a client receiving a service from the information server,

wherein in the information server,

according to a group registration request from an information device which intends to use a content, information about a device group to which the information device belongs is associated with a group identifier and registered, and

according to a service registration request from the information device, the information device is registered as an object to be serviced, and grouped device identification information for grouping and identifying a plurality of information devices in a device group to which the information device belongs and key information for content decryption are associated with the group identifier and registered, and the grouped device identification information and the key information are provided to all information devices in the device group to which the information device belongs, and

in the information device,

a content and a license are stored,

the grouped device identification information and the key information provided from the information server are stored together with the group identifier, and

on the basis of the contents of the license, the grouped device identification information and the key information, the stored content is decrypted to be replayed.

21. An information processing program applied to an information device having a function of using a content, the program enabling the information device to execute the steps of:

storing an encrypted and distributed content which can be used on condition that a license is held;

storing the license;

storing grouped device identification information for grouping and identifying a plurality of information devices which intend to use the content and key information for content decryption commonly provided to each device group together with a group identifier provided to each device group; and

decrypting the content stored in the first memory means on the basis of the stored information in the second memory means and the third memory means to replay the content.

22. An information processing program applied to an information server having a function of enabling an encrypted and

distributed content to be used, the information processing program enabling the information server to execute the steps of:

associating information about a device group to which an information device intending to use a content belongs with a group identifier and registering the information according to a group registration request from the information device; and

registering the information device as an object to be serviced according to a service registration request from the information device, associating grouped device identification information for grouping and identifying a plurality of information devices in a device group to which the information device belongs and key information for content decryption with the group identifier and registering the grouped device identification information and the key information, and providing the grouped device identification information and the key information to all information devices in the device group to which the information device belongs.